

CLAIMS

1. A motion compensation method for coding or decoding an image signal, the motion compensation method comprising:
 - a selection step of selecting one of methods for generating a motion vector of a block in a current macroblock to be coded or decoded, depending on a motion vector of a block located in a corner of a coded or decoded macroblock among a group of blocks that compose the coded or decoded macroblock corresponding to the current macroblock; and
 - a motion compensation step of generating a predictive image of the block in the current macroblock based on the motion vector generated by the selected method.
2. The motion compensation method according to Claim 1, wherein each block among the group of blocks is N_x pixels \times N_y pixels in size where N_x and N_y are natural numbers, while the size of the block in the current macroblock is $K_x \cdot N_x$ pixels \times $K_y \cdot N_y$ pixels where K_x and K_y are natural numbers.
3. The motion compensation method according to Claim 2, wherein either one of N_x and N_y is a multiple of the other, and $K_x \cdot N_x \geq 8$ and $K_y \cdot N_y \geq 8$.
4. The motion compensation method according to Claim 1, wherein one of the methods for generating the motion vector is to determine the motion vector to be "0".
5. The motion compensation method according to Claim 1, wherein one of the methods for generating the motion vector is to generate a motion vector with reference to motion vectors of coded or decoded blocks located adjacent to the current macroblock in the picture to which the current macroblock belongs.

6. The motion compensation method according to Claim 1,
wherein in the motion compensation step, the predictive
image of the block in the current macroblock is generated with
5 reference to a plurality of coded or decoded pictures.
7. A picture coding method for coding picture signals
comprising:
a selection step of selecting one of methods for generating a
10 motion vector of a block in a current macroblock to be coded,
depending on a motion vector of a block located in a corner of a
coded macroblock among a group of blocks that compose the coded
macroblock corresponding to the current macroblock;
a motion compensation step of generating a predictive
15 image of the block in the current macroblock based on the motion
vector generated by the selected method; and
a coding step of coding a difference between the image
signal and the predictive image.
- 20 8. A picture coding method according to Claim 7,
wherein each block among the group of blocks is N_x pixels \times
 N_y pixels in size where N_x and N_y are natural numbers, while the
size of the block in the current macroblock is $K_x \cdot N_x$ pixels \times $K_y \cdot$
 N_y pixels where K_x and K_y are natural numbers.
- 25 9. A picture coding method according to Claim 8,
wherein either one of N_x and N_y is a multiple of the other,
and $K_x \cdot N_x \geq 8$ and $K_y \cdot N_y \geq 8$.
- 30 10. A picture decoding method for decoding a bit stream and
obtaining a decoded picture, the picture decoding method
comprising:

a selection step of selecting one of methods for generating a motion vector of a block in a current macroblock to be decoded, depending on a motion vector of a block located in a corner of a decoded macroblock among a group of blocks that compose the decoded macroblock corresponding to the current macroblock;
5 a motion compensation step of generating a predictive image of the block in the current macroblock based on the motion vector generated by the selected method; and
a decoding step of adding a difference image obtained by
10 decoding the bit stream and the predictive image to obtain a decoded picture.

11. A picture decoding method according to Claim 10,
wherein each block among the group of blocks is N_x pixels \times
15 N_y pixels in size where N_x and N_y are natural numbers, while the size of the block in the current macroblock is $K_x \cdot N_x$ pixels \times $K_y \cdot N_y$ pixels where K_x and K_y are natural numbers.

12. A picture decoding method according to Claim 11,
20 wherein either one of N_x and N_y is a multiple of the other, and $K_x \cdot N_x \geq 8$ and $K_y \cdot N_y \geq 8$.

13. A program for motion-compensating an image signal causing a computer to execute:

25 a selection step of selecting one of methods for generating a motion vector of a block in a current macroblock to be coded or decoded, depending on a motion vector of a block located in a corner of a coded or decoded macroblock among a group of blocks that compose the coded or decoded macroblock corresponding to
30 the current macroblock; and

a motion compensation step of generating a predictive image of the block in the current macroblock based on the motion

vector generated by the selected method.

14. A program for coding an image signal causing a computer to execute:

5 a selection step of selecting one of methods for generating a motion vector of a block in a current macroblock to be coded, depending on a motion vector of a block located in a corner of a coded macroblock among a group of blocks that compose the coded macroblock corresponding to the current macroblock;

10 a motion compensation step of generating a predictive image of the block in the current macroblock based on the motion vector generated by the selected method; and

a coding step of coding a difference between the image signal and the predictive image.

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15. A program for decoding a bit stream and obtaining a decoded picture causing a computer to execute:

a selection step of selecting one of methods for generating a motion vector of a block in a current macroblock to be decoded, depending on a motion vector of a block located in a corner of a decoded macroblock among a group of blocks that compose the decoded macroblock corresponding to the current macroblock;

20 a motion compensation step of generating a predictive image of the block in the current macroblock based on the motion vector generated by the selected method; and

25 a decoding step of adding a difference image obtained by decoding the bit stream and the predictive image to obtain a decoded picture.

30 16. A picture coding apparatus for coding an image signal, comprising:

a selection unit operable to select one of methods for

generating a motion vector of a block in a current macroblock to be coded, depending on a motion vector of a block located in a corner of a coded macroblock among a group of blocks that compose the coded macroblock corresponding to the current macroblock;

5 a motion compensation unit operable to generate a predictive image of the block in the current macroblock based on the motion vector generated by the selected method; and

 a coding unit operable to code a difference between the image signal and the predictive image.

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17. A picture decoding apparatus for decoding a bit stream and obtaining a decoded picture comprising:

 a selection unit operable to select one of methods for generating a motion vector of a block in a current macroblock to be
15 decoded, depending on a motion vector of a block located in a corner of a decoded macroblock among a group of blocks that compose the decoded macroblock corresponding to the current macroblock;

 a motion compensation unit operable to generate a
20 predictive image of the block in the current macroblock based on the motion vector generated by the selected method; and

 a decoding unit operable to add a difference image obtained by decoding the bit stream and the predictive image to obtain a decoded picture.